

What is Claimed is:

1. A sound field correcting method in an audio system which includes a plurality of variable gain type frequency discriminating means for discriminating input audio signals into a plurality of frequencies, and delaying means for adjusting delay times of the audio signals that are frequency-discriminated by the variable gain type frequency discriminating means, whereby the audio signals are supplied to sound generating means via the variable gain type frequency discriminating means and the delaying means, said method comprising:

a first step of supplying a noise to the sound generating means via the variable gain type frequency discriminating means and the delaying means, and then detecting reproduced sounds generated by the sound generating means;

a second step of analyzing frequency characteristics of the reproduced sounds based on detection results detected by said first step in answer to the variable gain type frequency discriminating means;

a third step of supplying the noise to the sound generating means via the plurality of variable gain type frequency discriminating means and the delaying means, and then detecting the reproduced sounds generated by the sound generating means;

a fourth step of analyzing delay characteristics of the reproduced sounds based on the detection results detected by

said third step; and

a fifth step of adjusting frequency characteristics of the variable gain type frequency discriminating means based on the frequency characteristics obtained by said second step, and adjusting delay times of the delaying means based on the delay characteristics obtained by said fourth step.

2. A sound field correcting method in an audio system according to claim 1, wherein the reproduced sounds generated by the sound generating means are detected plural times by repeating said first step plural times, the frequency characteristics are analyzed in said second step based on multiplied values of plural times detection results, and the frequency characteristics of the variable gain type frequency discriminating means are adjusted in said fifth step based on the frequency characteristics obtained from the multiplied values.

3. A sound field correcting method in an audio system according to claim 1, wherein, in said first step, the reproduced sounds generated by the sound generating means are detected under such a condition that the frequency characteristics of the variable gain type frequency discriminating means are adjusted previously by using target curve data.

4. A sound field correcting method in an audio system according to claim 1, wherein the reproduced sounds generated by said sound generating means are detected plural times by

repeating said third step plural times, the delay characteristics are analyzed in said fourth step based on an average value of plural times detection results, and the delay times of the delaying means are adjusted in said fifth step based on delay characteristics obtained from the average value.

5. A sound field correcting method in an audio system which supplies a plurality of input audio signals to a plurality of sound generating means via a plurality of signal transmission lines, each of the signal transmission lines including a plurality of variable gain type frequency discriminating means for discriminating input audio signals into a plurality of frequencies, channel-to-channel level adjusting means for adjusting levels of the audio signals, and delaying means for adjusting delay times of the audio signals that are frequency-discriminated by the variable gain type frequency discriminating means, whereby the audio signals are supplied to sound generating means via the variable gain type frequency discriminating means, the channel-to-channel level adjusting means, and the delaying means, said method comprising:

a first step of supplying a noise to respective signal transmission lines via the variable gain type frequency discriminating means, the channel-to-channel level adjusting means, and the delaying means, then detecting reproduced sounds generated by the sound generating means via respective signal transmission lines, and then analyzing frequency

characteristics of the reproduced sounds via respective signal transmission lines based on detection results in answer to the variable gain type frequency discriminating means;

a second step of adjusting frequency characteristics of the variable gain type frequency discriminating means on respective signal transmission lines based on the frequency characteristics obtained by said first step;

a third step of supplying the noise to respective signal transmission lines via the variable gain type frequency discriminating means, the channel-to-channel level adjusting means, and the delaying means, then detecting the reproduced sounds generated by the sound generating means via respective signal transmission lines, and then analyzing delay characteristics of the reproduced sounds via respective signal transmission lines based on detection results;

a fourth step of adjusting delay times of the delaying means on respective signal transmission lines based on the delay characteristics obtained by said third step;

a fifth step of supplying the noise to respective signal transmission lines via the variable gain type frequency discriminating means, the channel-to-channel level adjusting means, and the delaying means, then detecting the reproduced sounds generated by the sound generating means via respective signal transmission lines, and then analyzing levels of the reproduced sounds via respective signal transmission lines

based on detection results; and

a sixth step of adjusting the channel-to-channel level adjusting means based on analyzed results of the levels of the reproduced sounds obtained by said fifth step via respective signal transmission lines.

6. A sound field correcting method in an audio system according to claim 5, wherein, in said first step, the reproduced sounds generated by the sound generating means are detected under such a condition that the frequency characteristics of the variable gain type frequency discriminating means are adjusted previously by using target curve data.

7. A sound field correcting method in an audio system according to claim 5, wherein said first step and said second step are repeated plural times, and said first step is performed under such a condition that the frequency characteristics of the variable gain type frequency discriminating means are adjusted in said second step.

8. A sound field correcting method in an audio system according to claim 5, wherein, in said sixth step, an adjusted amount of the plurality of channel-to-channel level adjusting means are corrected such that a spectrum average level of the reproduced sounds reproduced by the plurality of sound generating means are made flat over all audio frequency bands.

9. A sound field correcting method in an audio system according to claim 5, wherein the audio system is a multi-channel

audio system that supplies the audio signals to all frequency band sound generating means having a reproducing frequency characteristic that is substantially equal to the audio frequency band and a low frequency band exclusively reproducing sound generating means having a reproducing frequency characteristic that is substantially equal to the low frequency band of the audio frequency band.